## U.S. Department of the Interior • U.S. Geological Survey

## MINERAL INDUSTRY SURVEYS

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#### **CHROMIUM IN MARCH 1997**

Chromite consumption increased 11% in March 1997 compared with the previous month's data, according to the U.S. Geological Survey. Net production of chromium ferroalloys and metal in March 1997 increased 3% compared with data for February 1997. Chromite stocks decreased 9% over the same period. At the March rate of consumption, chromium stocks

represented 8 months of domestic supply.

Included in this Mineral Industry Surveys are: U.S. consumption and stocks of chromite; U.S. net production, net shipments, and stocks of chromium materials; U.S. Government inventory; and foreign trade for February 1997.

## TABLE 1 U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight unless otherwise noted)

	1996		199	997		
	JanDec.	Jan.	Feb.	Mar.	Jan Mar.	
Production:	<u></u>					
Chromium ferroalloys and metal: 2/						
Net production:						
Gross weight	36,800	3,020	3,000	3,090	9,110	
Chromium content	26,400	2,220	2,190	1,600	6,010	
Net shipments	38,800	3,590	2,180 r/	5,080	10,900	
Stainless steel production 3/	1,920,000	NA	NA	NA	NA	
Components of U.S. supply:						
Stainless steel scrap receipts	579,000	57,900	51,600	58,800	168,000	
Imports for consumption						
Chromite ore	250,000	37,700	3,030	NA	40,700 4/	
Chromium ferroalloys 5/	420,000	31,600	18,900	NA	50,500 4/	
Chromium metals 6/	8,740 r/	561	921	NA	1,480 4/	
Stainless steel	NA NA	NA	NA	NA	NA	
Stainless steel scrap	47	NA	NA	NA	NA	
Distribution of U.S. supply:						
Consumption:						
Chromite ore	282,000	21,000	20,600	22,900	64,600	
Chromium ferroalloys & metals	289,000	NA	NA	NA	NA	
Exports:						
Chromite ore	69,400	1,540	5,930	NA	7,470 4/	
Chromium ferroalloys	15,800	635	975	NA	1,610 4/	
Chromium metals	1,330	60	142	NA	203 4/	
Stainless steel	NA NA	NA	NA	NA	NA	
Stainless steel scrap	303	23	23	NA	46 4/	
Stocks at end of period:						
Industry:						
Chromite ore:						
Chemical and metallurgical	165,000 r/	179,000	187,000	170,000	XX	
Refractory	7,890	8,030	8,730 r/	8,660	XX	
Total	173,000 r/	188,000	195,000	179,000	XX	
Chromium ferroalloys and metal:						
Producer	6,450 r/	5,870	6,690 r/	4,700	XX	
Consumer	24,400	NA	NA	NA	XX	
Government stockpile:						
Chromite ore	1,190,000	1,180,000	1,170,000	1,160,000	XX	
Chromium ferroalloys	1,050,000	1,040,000	1,030,000	1,030,000	XX	
Chromium metals	7,720	7,720	7,720	7,720	XX	

r/ Revised. NA Not available. XX Not applicable.

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Includes low- and high-carbon ferrochromium, chromium concentrates, ferrochromium, chromium metal, and other miscellaneous alloys.

<sup>3/</sup> Data on stainless steel production from American Iron and Steel Institute, quarterly production of stainless and heat resisting raw steel.

 $<sup>4/\</sup>operatorname{Includes}$  data for January through February; March not available at time of publication.

<sup>5/</sup> Includes high-, medium-, and low- ferrochromium and ferrochromium silicon.

<sup>6/</sup> Includes waste and scrap and other.

## ${\bf TABLE~2} \\ {\bf U.S.~GOVERNMENT~STOCKPILE~INVENTORY~1/~OF~CHROMIUM~MATERIALS~2/}$

#### (Metric tons)

		Chromite ore	e	Chr	omium ferroalloy	ys .	Chromium metal		
				High-carbon	Low-carbon	Ferro-			
		Metal-		ferro-	ferro-	chromium	Alumino-		
Period	Chemical	lurgical	Refractory	chromium	chromium	silicon	thermic	Electrolytic	
1996:									
March	220,000	722,000	328,000	738,000	283,000	52,900	2,670	5,020	
April	220,000	717,000	328,000	738,000	283,000	52,900	2,670	5,020	
May	220,000	694,000	328,000	738,000	283,000	52,900	2,670	5,020	
June	220,000	658,000	327,000	738,000	283,000	52,900	2,670	5,020	
July	220,000	655,000	322,000	738,000	283,000	52,900	2,670	5,020	
August	220,000	655,000	322,000	738,000	283,000	52,900	2,670	5,020	
September	220,000	647,000	322,000	734,000	283,000	52,700	2,670	5,050	
October	220,000	645,000	322,000	732,000	283,000	52,700	2,670	5,050	
November	220,000	645,000	322,000	725,000	283,000	52,700	2,670	5,050	
December	220,000	645,000	322,000	718,000	283,000	52,700	2,670	5,050	
1997:									
January	220,000	637,000	322,000	704,000	283,000	52,700	2,670	5,050	
February	220,000	633,000	322,000	695,000	283,000	52,700	2,670	5,050	
March	220,000	627,000	318,000	695,000	283,000	52,700	2,670	5,050	

<sup>1/</sup> Includes specification and non-specification grade materials and materials set aside for disposal but not yet shipped.

Source: Defense National Stockpile Center.

 ${\bf TABLE~3} \\ {\bf U.S.~EXPORTS~OF~CHROMITE~ORE,~CHROMIUM~FERROALLOYS~AND~METAL~1/}$ 

	Chrom	ite ore	Chi	romium ferroalloys	2/	Chromium metal 3/	
	Gross		Gross	Chromium		Gross	
	weight	Value	weight	content	Value	weight	Value
Period	(metric tons)	(thousands)	(metric tons)	(metric tons)	(thousands)	(metric tons)	(thousands)
1996:							
February	1,700	\$407	887	536	\$1,230	44	\$618
March	1,840	484	669	399	894	124	1,450
April	17,100	2,280	734	444	843	165	1,530
May	1,730	1,160	472	288	597	76	863
June	37,900	4,270	490	291	583	143	1,110
July	1,920	568	1,320	797	1,640	214	1,820
August	1,060	564	676	411	694	63	717
September	614	132	955	554	912	137	772
October	1,310	152	1,100	680	956	97	1,010
November	1,390	486	1,450	852	1,350	93	825
December	1,060	214	6,200	3,750	3,140	89	1,090
JanDec.	69,400	11,100	15,800	9,520	14,000	1,330	12,800
1997:	_						
January	1,540	364	635	405	718	60	600
February	5,930	977	975	609	1,160	142	1,120
Total	7,470	1,340	1,610	1,010	1,880	203	1,720

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Data are rounded to three significant digits.

<sup>2/</sup> Includes low-, medium-, and high-carbon ferrochromium, and ferrochromium-silicon.

 $<sup>3/\,\</sup>text{Includes}$  wrought and unwrought and waste and scrap.

# $TABLE\ 4$ U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL 1/

#### (Metric tons)

	19	1996		1997		
	December	JanDec.	January	February	JanFeb.	
Chromite ore:						
Not more than 40% chromic oxide:						
Gross weight		8,030	5,780		5,780	
Chromic oxide content		2,650	1,910		1,910	
More than 40% but less than 46% chromic oxide:						
Gross weight		25,400				
Chromic oxide content		11,100				
46% or more chromic oxide:						
Gross weight	1,030	217,000	31,900	3,030	34,900	
Chromic oxide content	485	102,000	14,800	1,670	16,500	
Total, all grades:						
Gross weight	1,030	250,000	37,700	3,030	40,700	
Chromic oxide content	485	116,000	16,700	1,670	18,400	
Ferrochromium:						
Low-carbon: 2/						
Gross weight	3,600	60,700	5,220	3,860	9,080	
Chromium content	2,460	38,400	3,410	2,550	5,970	
Medium-carbon: 3/						
Gross weight		36	17		17	
Chromium content		23	11		11	
High-carbon: 4/						
Gross weight	23,700	359,000	26,300	15,000	41,400	
Chromium content	13,200	207,000	16,200	11,600	27,800	
Total, all grades						
Gross weight	27,300	420,000	31,600	18,900	50,500	
Chromium content	15,600	246,000	19,700	14,100	33,800	
Chromium metal:						
Other than waste and scrap	795	8,670	560	918	1,480	
Waste and scrap	<del></del>	67 r/	(5/)	2	3	
Total, all grades	795	8,740 r/	561	921	1,480	

r/ Revised

- $1/\,\mbox{Data}$  are rounded to three significant digits; may not add to totals shown.
- 2/ Ferrochromium containing not more than 3% carbon.
- $3/\operatorname{Ferrochromium}$  containing more than 3% carbon but not more than 4% carbon.
- 4/ Ferrochromium containing more than 4% carbon.
- 5/ Less that 1/2 unit.

Source: Bureau of the Census.

TABLE 5 U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN FEBRUARY 1997, BY GRADE AND BY COUNTRY 1/

		February				
	Gross	G 0	W.1. O/	Gross		
	weight	Cr2O3	Value 2/	weight	Cr2O3	Value 2/
Country	(metric tons)	(metric tons)	(thousands)	(metric tons)	(metric tons)	(thousands)
Not more than 40% chromic						
oxide:						
Philippines				5,780	1,910	\$1,050
46% or more chromic oxide:						
Canada	13	6	\$5	13	6	5
Russia	22	261	117	22	261	117
South Africa	3,000	1,410	1,950	34,900	16,200	4,780
Total	3,030	1,670	2,070	34,900	16,500	4,900
Total, all grades:						
Canada	13	6	5	13	6	5
Philippines				5,780	1,910	1,050
Russia	22	261	117	22	261	117
South Africa	3,000	1,410	1,950	34,900	16,200	4,780
Total	3,030	1,670	2,070	40,700	18,400	5,950

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

TABLE 6 U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN FEBRUARY 1997, BY GRADE AND BY COUNTRY 1/

	February			January-February			
	Gross	Chromium		Gross	Chromium		
	weight	content	Value 2/	weight	content	Value 2/	
Country	(metric tons)	(metric tons)	(thousands)	(metric tons)	(metric tons)	(thousands)	
High-carbon ferrochromium: 3/							
Canada				20	9	\$2	
France	15,000	11,600	\$5,740	15,000	11,600	5,740	
India				385	237	190	
South Africa				2,800	1,420	1,070	
Turkey	15	9	10	13,500	8,460	6,280	
Zimbabwe				9,640	6,120	5,080	
Total	15,000	11,600	5,750	41,400	27,800	18,400	
Medium-carbon ferrochromium: 4/							
Switzerland				17	11	16	
Low-carbon ferrochromium: 5/							
China	699	456	873	750	489	950	
Germany	972	679	2,440	1,950	1,360	4,800	
Japan	48	11	128	84	35	259	
Russia	2,140	1,410	2,650	3,570	2,390	5,150	
South Africa				1,450	841	1,600	
Zimbabwe				1,280	847	1,570	
Total	3,860	2,550	6,090	9,080	5,970	14,300	
Total, all grades:							
Canada				20	9	2	
China	699	456	873	750	489	950	
France	15,000	11,600	5,740	15,000	11,600	5,740	
Germany	972	679	2,440	1,950	1,360	4,800	
India				385	237	190	
Japan	48	11	128	84	35	259	
Russia	2,140	1,410	2,650	3,570	2,390	5,150	
South Africa				4,250	2,260	2,670	
Switzerland				17	11	16	
Turkey	15	9	10	13,500	8,460	6,280	
Zimbabwe				10,900	6,960	6,660	
Total	18,900	14,100	11,800	50,500	33,800	32,700	

<sup>1/</sup> Data are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

 $<sup>3/\</sup>operatorname{Ferrochromium}$  containing more than 4% carbon.

<sup>4/</sup> Ferrochromium containing more than 3% but not more than 4% carbon.

<sup>5/</sup> Ferrochromium containing not more than 3% carbon.

 $TABLE\ 7 \\ U.S.\ IMPORTS\ FOR\ CONSUMPTION\ OF\ CHROMIUM\ METAL\ IN \\ FEBRUARY\ 1997,\ BY\ GRADE\ AND\ BY\ COUNTRY\ 1/$ 

	Febru	ıary	January-F	February	
	Gross weight	Value 2/	Gross weight	Value 2/	
Country	(metric tons)	(thousands)	(metric tons)	(thousands)	
Waste and scrap:					
Canada		\$8	2	\$8	
Mexico			(3/)	2	
Total	2	8	3	10	
Other than waste and scrap:					
China	287	1,670	480	2,780	
France	148	1,220	278	2,290	
Germany	1	27	16	168	
Hong Kong	17	99	51	302	
Italy	(3/)	7	(3/)	7	
Japan	3	195	25	970	
Russia	345	2,170	406	2,530	
Switzerland			(3/)	1	
Taiwan	3	7	5	18	
United Kingdom	114	1,110	218	1,990	
Total	918	6,500	1,480	11,000	
Total, all grades:					
Canada		8	2	8	
China	287	1,670	480	2,780	
France	148	1,220	278	2,290	
Germany	1	27	16	168	
Hong Kong		99	51	302	
Italy	(3/)	7	(3/)	7	
Japan	3	195	25	970	
Mexico			(3/)	2	
Russia	345	2,170	406	2,530	
Switzerland			(3/)	1	
Taiwan		7	5	18	
United Kingdom	114	1,110	218	1,990	
Total	921	6,510	1,480	11,100	

 $<sup>1/\,\</sup>mathrm{Data}$  are rounded to three significant digits; may not add to totals shown.

<sup>2/</sup> Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise into the United States.

<sup>3/</sup> Less than 1/2 unit.